

Model Disclosure Elements for Actuarial Valuation Reports on Public Retirement Systems in California

As part of its effort to influence and improve actuarial practice with respect to public retirement systems in California, the California Actuarial Advisory Panel has adopted a set of model disclosure elements for actuarial valuation reports of public retirement systems in California.

These model disclosure elements do not represent a minimum standard of practice but rather an inventory of disclosure elements that actuaries should strive towards including in their reports on the actuarial valuations of public retirement systems in the State of California. It is hoped that these model disclosure elements will gradually be adopted by the majority of pension and OPEB actuaries practicing in the public sector in California.

These disclosure elements are organized as basic disclosures generally suitable for the regular (often annual) actuarial valuation reports followed by enhanced disclosures that may be appropriate for inclusion either in the regular actuarial valuation report or in other reports specific to a given purpose. It is not anticipated that these disclosures would be included in every actuarial communication.

Basic Disclosures: The basic disclosure elements shown below include both valuation results and the basis for the valuation, and represent a modest extension of current actuarial practice in the public sector in California. Much if not all of the information below can be found in current actuarial valuation reports or readily derived from information already available in those reports.

Basic Disclosures – Valuation Results

1. Normal Cost

- A. General. The normal cost should be disclosed in sufficient detail so that the user can understand how this element of the recommended contribution is determined and how it is to be paid.
- B. Form. The Normal Cost would usually be determined as either a percent of pay or a dollar amount¹. If the normal cost is not determined as a dollar amount, the estimated dollar amount of the contributions should also be disclosed.
- C. Timing. The disclosure should indicate the assumed timing of the normal cost within the contribution year: beginning of year, during the year (e.g., by pay period), end of year, etc.
- D. Funding source. For contributory plans the disclosure should indicate the total normal cost, the portion funded by member contributions, and the net employer normal cost.

¹ Where there are active members, the normal cost will usually be expressed as a percentage of pay. However, in some circumstances it may be appropriate to determine the normal cost on some other basis such as a level dollar amount. Where there are no active members, the normal cost would normally be determined as \$0.

2. Actuarial Accrued Liability (AAL)
3. Market Value of Assets (MVA) and Actuarial Value of Assets (AVA)
4. Unfunded Actuarial Accrued Liability (UAAL) or Surplus²

On both an AVA basis and a MVA basis

5. Current Contribution Requirement

As with the Normal Cost, this should be disclosed in sufficient detail so that the user can understand how the recommended contribution is determined and how it is to be paid. The current contribution would usually be determined as either a percent of pay or a dollar amount³. If the current contribution is not determined as a dollar amount, the estimated dollar amount of the contributions should also be disclosed.

Also as with the Normal Cost, the current contribution requirement should include information as to the timing and funding sources of the contributions.

6. Funded Ratios on both an AVA and MVA basis (AVA/AAL, MVA/AAL)
7. Asset Smoothing Ratio (AVA / MVA) before and after any MVA corridor
8. Volatility Ratios

Asset Volatility Ratio: MVA/Payroll – This ratio provides an indication of the potential contribution volatility for any given level of investment volatility. A plan with an Asset Volatility Ratio of 10 would have double the level of contribution volatility of a plan with an Asset Volatility Ratio of 5.⁴ This is a current measure since it is based on the current level of assets.

Liability Volatility Ratio: AAL/Payroll – This ratio provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility.⁵ In addition, this ratio provides an indication of the potential contribution volatility due to liability experience (gains and losses) and liability remeasurements (assumption changes).

9. Reconciliation of changes in UAAL or Surplus

A schedule of changes in UAAL since the previous actuarial valuation date should include:

- a. The UAAL as of the previous valuation date

² Here "surplus" refers to a negative UAAL, where assets exceed the AAL.

³ Where there are active members, the current contribution requirement will usually be expressed as a percentage of pay. However, in some circumstances it may be appropriate to determine the current contribution requirement on some other basis such as a fixed dollar amount. Where there are no active members, the current contribution requirement would normally be determined as a fixed dollar amount.

⁴ If a plan has an asset volatility ratio of 10, a 10% loss on assets translates to 100% of payroll. This will have a substantial impact on required contributions regardless of the asset smoothing or UAAL amortization mechanisms in use. However, for a plan has an asset volatility ratio of 5, a 10% loss on assets translates to 50% of payroll and would only have half the impact on contributions of a plan with an asset volatility ratio of 10.

⁵ This is because the assets should track the liabilities over an extended period of time. If a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

- b. Expected changes in UAAL, including Normal Cost, ^{inv. return} interest and contributions⁶
- c. Unexpected changes in UAAL, including gains and losses⁷, assumption changes, method changes and plan amendments
- d. The resulting UAAL as of the current valuation date

10. UAAL Amortization Schedule

The UAAL amortization schedule should include the current UAAL amount(s), the remaining amortization period(s) and the current UAAL amortization payment(s). As applicable (for example, when the total UAAL is amortized in separate amounts based on the source of the UAAL) the schedule should include the original UAAL amortization amounts, and the dates and sources of such amounts

Basic Disclosures – Basis for Valuation: These disclosures are intended to give the user of the report essential information as to the basis for measurement of plan costs and liabilities.

11. Disclose the assumptions used in the actuarial valuation along with the rationale and process⁸ for establishing those assumptions.
12. Disclose the principal actuarial funding policies and related methodologies used in the actuarial valuation along with the rationale and process⁸ for establishing those policies. Such funding policies should include:
- a. The actuarial cost method used to allocate the present value of projected benefits to years of service for active members, including any variations in the “entry age” method such as “replacement life” or “funding to decrement”.
 - b. The asset smoothing method used to determine the AVA, including the smoothing period and method as well as any constraints on the AVA such as an “MVA corridor”.
 - c. The UAAL amortization policy including the structure (single UAAL layer vs. multiple UAAL layers), method (level dollar vs. level percent of pay, fixed (closed) vs. rolling (open) amortization periods) and period(s) used for determining the amortization payments.
 - d. Any other methodologies used to determine the actuarial funding policy contribution amounts, including, for example, any phase-in of the effect of assumption changes or any limitations on the amount that contributions can change in a given year.
13. Disclose the basis for determining the actual contributions made to the plan if different from that determined under the actuarial funding policies.

Enhanced Disclosures: These disclosures go beyond the results of the current valuation and so generally will require additional work on the part of the actuary. Because of cost

⁶ Contributions may be shown as either actual or expected, with consistent treatment of the disclosure of contribution gains or losses later in this schedule

⁷ While a complete reconciliation of gains/losses by source is not necessarily required, major sources of gain/loss should be separately identified, including investment related gain/loss.

⁸ The rationale and process for establishing both assumptions and funding policies may be incorporated by reference to some other report or study, such as an experience investigation or statement of funding policy.

Asset Smoothing - net gains/losses will be recognized as they occur in the future & should be "funded for" at that time. On the other hand, UAAL/Surplus amort. is recog. in determining contr. levels

considerations and because different disclosures may be appropriate for different circumstances, these disclosures may be adopted more slowly and/or less universally than the basic disclosure elements above. Furthermore, these disclosures may be appropriate for reports separate from the actuarial valuation report. Nevertheless, we believe that these disclosures will generally enhance the information provided and so we encourage their adoption as the norm for public plan actuarial work where appropriate.

Enhanced Disclosures -- General

14. Contribution Requirement on an MVA basis

Disclose the current contribution requirement with the AVA set equal to the MVA. This calculation may be appropriate for inclusion in the actuarial report especially when the asset smoothing method is deferring substantial market gains or losses. It is recommended here as an easily developed illustration of the approximate, ultimate effect of those deferred gains or losses. It should not be interpreted as recommending a policy alternative to the use of a smoothed AVA in determining contribution requirements.

15. Projections of future benefits and contributions, as well as future funded status.

Such projections may be more appropriate in some circumstances than others. Contribution projections may be particularly appropriate when the asset smoothing method is deferring substantial market gains or losses. Funded status projections are particularly useful when the employer is not contributing the actuarially determined amount. They are also appropriate when the UAAL amortization policy is such that the funded status is not expected to increase even when all assumptions are met. }?

Enhanced Risk Disclosures: These disclosures are intended to give the user of the report additional information and understanding of the risks associated with the funding of the pension plan. As with the General Enhanced Disclosures, these disclosures require additional work on the part of the actuary and so may be adopted more slowly and less generally than the basic disclosures. These risk disclosures could include but are not limited to:

16. A "sensitivity analysis" showing the impact on current valuation results of changes in key assumptions and methodologies.

17. A "deterministic stress test" projection of future results under appropriately chosen scenarios showing the effect of future actual experience different from that assumed in the valuation.

18. A "stochastic or probabilistic" analysis on the impact of statistical variation in key experience elements including the actual future investment returns.

Enhanced Historical Disclosures: These disclosures show the history of contribution practices, valuation results and actuarial assumption and funding policy decisions. We encourage plans to begin maintaining a record of these results as well as presentation of as many years of past results as are available.

19. Contribution History (10 years or more)

Should we pay particular attention to inv. return sensitivity & make it a basic rather than an enhanced disclosure. One thing for sure - we know that current inv. ret. assumptions will not come true

Actuarially determined amount (based on estimated or actual payroll)
Funding policy amount, if different (based on estimated or actual payroll)
Actual contribution amount

20. Funded Status History (10 years or more)

AAL, MVA and AVA

UAAL or Surplus, and funded ratios, on both an AVA basis and a MVA basis

Other ratios, including Asset Smoothing Ratio and Volatility Ratios
(see Basic Disclosures 7 and 8)

21. Reconciliation of changes in UAAL or Surplus (10 years or more)

Same elements as described in Basic Disclosure 9

22. Funding Policy History (10 years or more)

Changes in asset smoothing method

Changes in UAAL amortization policy

Changes in other funding policies (incl. cost method)

For each, include effective date, financial impact and a brief indication of rationale¹⁰

23. Changes in Economic Assumptions (10 years or more)

Includes price inflation, wage inflation, and investment earnings

For each, include effective date, financial impact and a brief indication of rationale¹⁰

24. Changes in Key Demographic Assumptions

Could include mortality, retirement ages, etc.

For each, include effective date, financial impact and a brief indication of rationale¹⁰

¹⁰ The rationale may be incorporated by reference to some other report or study, such as an experience investigation or review of funding policy.